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(54) **NOVEL TRANSCRIPTION FACTOR-BASED
BIOSENSOR**

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(57) **ABSTRACT**

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The present invention provides for a system comprising a BmoR transcription factor, a σ^{54} -RNA polymerase, and a pBMO promoter operatively linked to a reporter gene, wherein the pBMO promoter is capable of expression of the reporter gene with an activated form of the BmoR and the σ^{54} -RNA polymerase.

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